



Guidance note on how to design transformational mitigation projects a checklist for project developers and managers

Wienges, Sebastian; Egbers, Sven; Olsen, Karen Holm; Svenningsen, Lea Skræp

Publication date:
2017

Document Version
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):
Wienges, S., Egbers, S., Olsen, K. H., & Svenningsen, L. S. (2017). *Guidance note on how to design transformational mitigation projects a checklist for project developers and managers.*

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.



GUIDANCE NOTE ON HOW TO DESIGN TRANSFORMATIONAL MITIGATION PROJECTS

A CHECKLIST FOR PROJECT
DEVELOPERS AND MANAGERS



GUIDANCE NOTE ON HOW TO DESIGN TRANSFORMATIONAL MITIGATION PROJECTS

A CHECKLIST FOR PROJECT DEVELOPERS AND MANAGERS

Authors: Sebastian Wienges, Sven Egbers, Karen Holm Olsen and Lea Skræp Svenningsen

Acknowledgements: The authors would like to acknowledge the very helpful comments from Marion Geiss, Till Serafimov, Gloria Namande, Heiner von Lüpke, Tangmar Marmon, Tobias Dorr, Hauke Bröcker, Inga Zachow, Friedel Sehleier and Klaus Wenzel, as well as the very constructive collaboration with Claudio Forner and Florian Mersmann over the course of the last four years in respect of the background research on transformational change on which this Guidance Note is based.

Contact:

Dr Sebastian Wienges, GIZ
Email: Sebastian.Wienges@giz.de

Sven Egbers, GIZ
Email: Sven.Egbers@giz.de

August 2017

Disclaimer: The ideas presented in this publication do not necessarily represent the views of the institutions involved in the research project or imply the endorsement of any approach described in the publication.

Table of Contents:

1. Introduction	2
1.1. What is transformational change?	2
1.2. Objective of this Guidance Note	2
1.3. What the Guidance Note builds on	3
1.4. How to use this Guidance Note	4
 The Checklist	
2. Main characteristics of transformational policies and actions	5
 3. Unfolding the characteristics of TC.....	 7
3.1. Levels of Transformational Change: how to create an enabling context for TC	7
3.2. Phases of Transformational Change: how to foster innovations	8
3.3. Agents of Transformational Change: how to mobilize actors for Transformational Change	10

1 Introduction

1.1 WHAT IS TRANSFORMATIONAL CHANGE?

There is a sense of urgency about what is needed to achieve transformational change. The global objective of stabilizing the amount of greenhouse gases (GHG) in the atmosphere at a level that will prevent dangerous climate change requires immediate changes that go beyond sectoral or national borders and extend into the long-term future. This means large-scale transformations in human societies, from the way that we produce and consume energy to how we use the land surface. To achieve this objective, it is not sufficient to become more sustainable gradually: comprehensive changes in patterns of production and consumption are needed in our societies and economies. The term **Transformational Change (TC)** reflects the fundamental change needed to prevent dangerous climate change and to ensure sustainable development globally. TC must promote a **systemic transformation** of world views, institutions and technologies together, viewed as an integrated system. As opposed to incremental changes, TC must be

- **large enough** to have a transformational impact;
- comprehensive and consistent **across sectors** in order to avoid other changes nullifying the impacts of the project to propel TC toward the global goals of sustainable development and limiting global warming;
- and sustainable **in the long-term**, thus avoiding so-called rebound effects, which compensate or even overcompensate for emissions reductions through economic growth effects.

Since the Bali Action Plan of 2007, developing countries have been designing and implementing policies and actions to reduce GHG emissions in the context of sustainable development through nationally appropriate mitigation actions (NAMAs). In the Paris Agreement of 2015, all Parties are invited to communicate mid-century, long-term 'low GHG emissions development strategies' (LEDS), which may include pathways up to and targets for 2050. The cornerstone of the Paris Agreement, the so-called Nationally Determined Contributions (NDCs), requires large, cross-sectoral and long-term mitigation actions to achieve the targets countries have committed themselves. Implementation of NDCs in fact compels transformational impacts to be aimed at. In response to the questions concerning what changes are necessary to achieve the global 2°C or even 1.5°C objective and what is in the national interests of countries that are implementing NDCs through NAMAs, a debate has emerged on how best to design effective policies and actions to change the prevailing structures of a sector in a sustainable fashion. The Green Climate Fund and the NAMA Facility both require projects to contribute to 'paradigm shifts' and 'transformational change'.

1.2 OBJECTIVE OF THIS GUIDANCE NOTE

This Guidance Note aims to help practitioners better understand the concept of transformational change (TC). By providing a checklist of the characteristics of transformational change that should be considered in the design of transformational mitigation projects, the Guidance Note can support the achievement of the following objectives: 1) enhance the impact and relevance of projects implementing NDCs; 2) meet the requirements and demands of climate funds, donors and partners; 3) address cross-sectoral project goals; and 4) assist in designing mitigation policies and actions (including

HOW THE GUIDANCE NOTE WAS DEVELOPED

In 2014 a first concept note was prepared to summarize the debate and clarify the concept of transformational change and how NAMAs can facilitate a transformation for low emission and sustainable development. Further research in 2015 focused on ongoing and most advanced examples of transformational processes of low carbon development. A diversity of countries and sectors was selected to understand a broad range of drivers and barriers and to finally identify generic indicators of TC (published in 2016). The case studies were not limited to NAMAs. Broader developments such as low carbon transitions at sector and sub-sector levels were also included. All the transitions are ongoing at different stages of planning and development. The case studies focus on the transformation of the energy system in **Germany**; the reduction in deforestation in **Brazil** (75% over a decade from 2005 to 2014); the transformation of the transport system in **Bogotá**; the role of wind power in electricity generation in the transformation of the **Danish** energy system; and the role of state-owned companies to lead a transition from high-carbon lock-in towards a national low-carbon development pathway in **South Africa**.

NAMAs) which initiate and propel long-term transformational processes. The Guidance Note helps to answer the following questions: What are the characteristics of TC, and what constitutes transformational policies and actions? How can my project contribute to transformational policies and actions, and what do I need to consider when designing transformational mitigation projects? How can I manage the processes that trigger the desired transformation?

1.3 WHAT THE GUIDANCE NOTE BUILDS ON

This Guidance Note builds on research¹ undertaken jointly by the Partnership on Transparency in the Paris Agreement (formerly the International Partnership on Mitigation and MRV) and the NAMA Partnership in collaboration with the UNFCCC Secretariat, the UNEP DTU Partnership and the Wuppertal Institute. Based on a concept note and analyses of five case studies, a set of indicators was identified to assess the TC potential of NAMAs. These indicators were tested against 93 NAMAs that had been submitted to the UNFCCC Registry by 1 June 2015. The result of this research was the identification of certain **factors, levels, phases and agents** – in this Guidance Note summarized as ‘characteristics’² – which determine TC processes.

-
- 1 From theory to practice: Understanding Transformational Change in NAMAs (Wuppertal Institute, UNEP DTU Partnership, 2014); Transformational Change for Low Carbon and Sustainable Development (UNEP DTU Partnership, 2015); Transformational Change Taxonomy, (UNEP DTU Partnership, 2016). Available at: www.transparency-partnership.net
 - 2 The word ‘characteristics’ is used in this Guidance Note as an umbrella term for all influences on the transformational potential and impact of a mitigation project. If these characteristics need to be actively managed and increased or decreased in the project’s impact chain, they are referred to as ‘factors’ for the project’s transformational impact.

In order to plan a mitigation project in a way that contributes to the global 1.5° – 2°C objective and the global sustainable development goals (SDGs), the project must address the following:

- all the factors for TC
- all the levels on which TC processes occur
- all the phases which TC runs through
- all the agents that have an impact on the TC process.

In sections 2 and 3 below a checklist is provided of the characteristics of transformational change that need to be taken into consideration when planning and implementing a project that is supposed to contribute ultimately to TC.

1.4 HOW TO USE THIS GUIDANCE NOTE

The Guidance Note lists the characteristics identified in the research that users should keep in mind when planning and implementing a transformational mitigation project. It works like a checklist for the issues that should be considered in a project that is supposed to contribute to TC. Note that it does not prescribe what to do to or how to achieve TC. Each project requires separate consideration of which characteristics are relevant in its own specific context. For each characteristic listed in the following sections, the project developer needs to ask: (a) what it represents in the specific project context; (b) whether it is relevant and fits into the specific project; and (c) how the project can and should influence this characteristic as a factor in the transformation being aimed at.³

It should be emphasized that TC are processes of complex change that take time and cannot be completely planned and strictly steered. However, it is possible to support transformational processes by continuously promoting factors for selected characteristics of transformational change and as a result steering towards the intended low emissions and sustainable development pathway.

To achieve sustainable development, not every project needs to aim at TC or contribute to it: many small, incremental changes may also contribute to and trigger TC. If the characteristics of TC are set up for the goals of low emissions and sustainable development, they will foster and facilitate the necessary changes. Projects should focus on the most important and relevant characteristics of TC that are specific to a sector and society, especially where they are missing, and ultimately adjust and monitor them.

The next sections of this Guidance Note contain a list of characteristics describing the TC potential of policies and actions (section 2), followed by a more in-depth explanation of the levels, phases and agents of TC processes by describing the characteristics of TC that mitigation projects might trigger (section 3).

³ The GIZ also offers project design and project review workshops to align project impacts with the transformational changes required to meet the global 2°C objective. Please contact info@transparency-partnership.net.

The Checklist

2 Main characteristics of transformational policies and actions

This section provides practitioners with an overview of the relevant characteristics of transformational change. The following characteristics do not form a definition of TC⁴, but describe important aspects of TC that should be taken into consideration when planning and implementing mitigation projects that support the implementation of climate policies and actions to implement ambitious NDCs.

Transformational mitigation policies and actions should:

... change and ultimately disrupt established high-carbon pathways (*goal dimension*), contribute to sustainable development, and sustain the impacts of the change. In order to have a transformational impact, the design and implementation of mitigation projects should be driven by:

- a short-term, large-scale and sustainable GHG reductions goal
- a long-term, mid-century goal of low emissions – for example, no more than 2 tCO₂ per capita by 2050 – and sustainable development, together with strategically aligned policies and actions
- a long-term low GHG emission development strategy (LEDS)
- sustainable development goals (SDGs)
- key performance indicators to track short-term progress.

... be triggered by innovative interventions (*process dimension*). Mitigation projects should contribute to:

- creating low-carbon development models and actions
- generating long-term financial commitments towards low-carbon solutions
- making innovations easily acceptable ('sticky') and linking changes to the day-to-day practices of people and businesses
- convincing other actors to apply and adopt the innovation at different levels of society and politics
- fostering behavioral changes in the target group for lowering greenhouse gas emissions
- increasing support within the target group for the sustainability of the project's intervention.

4 For further guidance on how to define and assess transformational impacts of policies and actions ex-ante and/or ex-post of implementation, refer to the Transformational Change Guidance (ICAT 2017). Available at: www.climateactiontransparency.org

... **overcome persistent barriers** (*long-term sustainability dimension*) to a low GHG emission development pathway and avoid relapsing into the situation before the transformation. Mitigation projects that support transformational policies and actions should:

- enable a low-carbon development model
- create new incentives to prevent the transformed system from relapsing into its former state, including:
 - creating partnerships of actors with mutual interests in low-carbon development
 - harnessing revenues for sustainable development benefits, thereby creating interest groups for the support of the intervention
 - communicating a change in normative values toward sustainability
 - overcoming high upfront cost barriers by creating demand for new technology
 - monitoring interventions continuously to make small adjustments and manage the transition
 - building the capacities of private companies such as technology suppliers, which have invested in and seek returns from low-carbon technologies
 - creating economic attractiveness and incentivizing low-carbon technologies, e.g. through reduction of fossil fuel subsidies, carbon pricing, feed-in tariffs for renewable energies and energy efficiency labelling
 - contributing and enabling the creation of new and expanding markets for new companies
 - designing complementary interventions and institutions which are mutually self-reinforcing, e.g. through technical training schools creating capacities for low-carbon business models
 - identifying and aiming at tipping points beyond which TC processes accelerate without further support, e.g. when positive effects through TC expand over time and create increasing benefits.

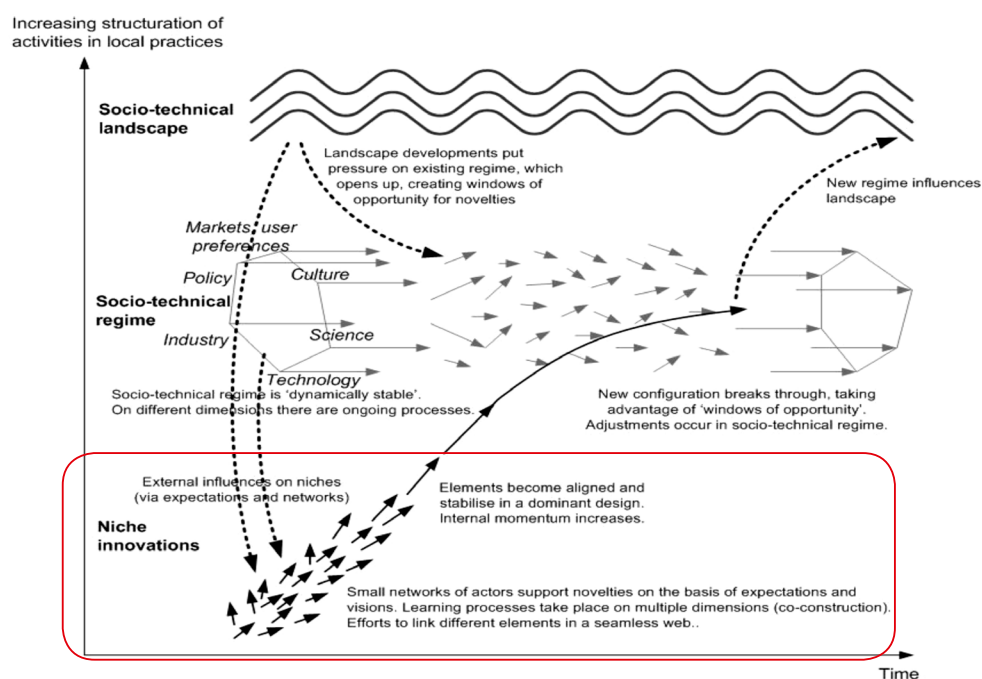
3 Unfolding the characteristics of TC

3.1 LEVELS OF TRANSFORMATIONAL CHANGE: HOW TO CREATE AN ENABLING CONTEXT FOR TC

TC can be triggered through changes at any of the following levels:

- **Socio-technical landscape level.** This is the level of international politics and natural and man-made events, and is therefore outside the project's direct sphere of influence. Mitigation projects can help trigger change through, for instance, political pressure from civil society or the growth of international concern about climate change by creating an **inclusive and open multi-stakeholder** dialogue.
- **Regime level.** This is the level of established practices in the political, economic, social or cultural spheres. Governments can play a role in developing **incentives and regulations** for innovations promoting TC. Mitigation projects should always address this policy and regulatory level in triggering TC.
- **Niche level.** Individuals and new business models can develop niche innovations (e.g. new technologies) which can eventually start competing with established practices, ultimately changing the dominant business model and developing new patterns of consumption behavior and production processes. Local involvement and collaboration with individual **local technology owners and investors** in mitigation projects is essential.

Fig. 1: Multilevel Perspective



Source: (J. Geels and F.W. Schot, Strategic niche management and sustainable innovation journeys. 2008, in Technology Analysis & Strategic Management, vol. 20(5), cited from the report: "From theory to practice: understanding transformational change in NAMA's" (Mersmann et al., 2014)).

Figure 1 shows how a society and its technical capacities are transformed over time through changes across the three levels, all of which should be taken into consideration when planning and implementing mitigation projects. In order to trigger transformational change, work at the individual levels needs to be linked:

- **across levels:** all levels interact with each other and influence and change the socio-technical level over the long term. The creation of **networks of allies** for low-carbon development models enables mitigation projects to work with certain actors on certain characteristics of TC but creates a broad enabling environment for TC, including mutually interacting policies, markets, consumer behavior, infrastructure and technologies.

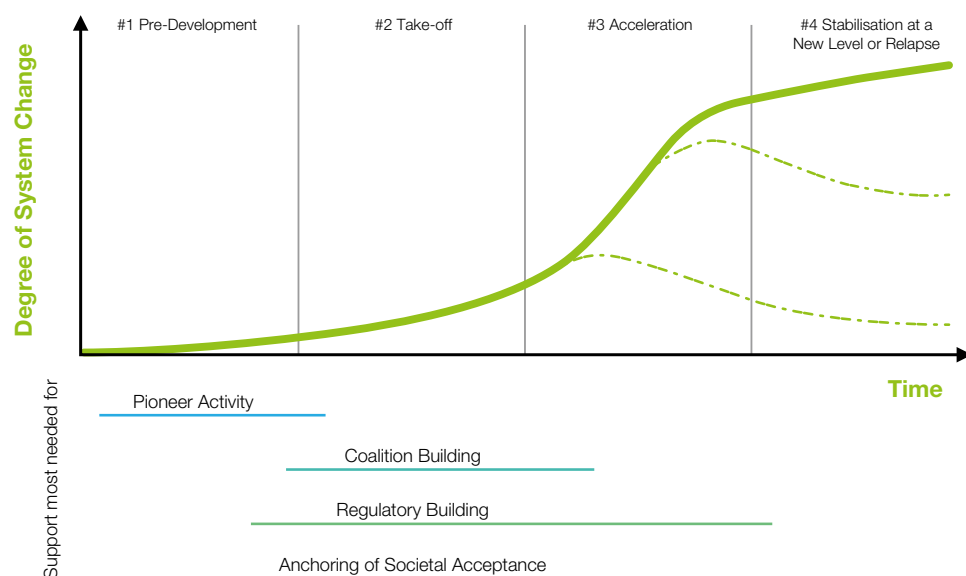
3.2 PHASES OF TRANSFORMATIONAL CHANGE: HOW TO FOSTER INNOVATIONS

Transformational changes typically go through four phases: pre-development, take-off, acceleration and stabilization, as shown in Figure 2. They may overlap and, depending on many lesser factors, the process might be delayed or propelled as a whole.

The graph in Figure 2 also provides guidance in the lower section of the figure on what NAMAs may need to foster and address in the different transformational phases. Project developers and managers need to check where the TC process stands and whether the planned project intervention addresses issues specific to the relevant transformational phase, that is, whether it responds to the national circumstances. Different phases of TC require different types of intervention.

Pre-development phase. Up to this phase institutions and paradigms are unquestioned, and institutions remain stable. While major stakeholders are unaware of alternative solutions or deem them too difficult to incorporate into their day-to-day practice, some irritations caused

Fig. 2: Phase Model



Source: (J. Rotmans et al., Transitions and transition management, Working Paper, International Centre for Integrative Studies ICIS, 2000, cited from the report: "From theory to practice: understanding transformational change in NAMAs" (Mersmann et al., 2014).

by external pressure or symptoms of unsustainable development exist. Mitigation projects should:

- **Foster alternative thinking.** Make low-carbon possibilities seem doable through R&D, innovations and awareness campaigns.
- **Demonstrate new possibilities and create niches for experimentation.** It is important to create good practices for the desired transformation. New possibilities can be demonstrated through pilot programs.
- **Create new niches.** New low-carbon development models need protected spaces in which to grow and mature. The creation of spaces protected for a limited period from competition in markets and resistance from the mainstream is crucial to fostering innovation and allowing time to evolve.
- **Create new fora for discussion.** New low-carbon development models face resistance from mainstream stakeholders. The development and implementation of new ideas requires protected spaces. Capacity development can strengthen open-minded communication and encourage the acquisition of new allies.

Take-off phase. Although new technologies and business models have not yet been firmly established, new ideas are acquiring interest, and experiments are becoming larger in scale. Proponents of the old system may organize themselves as a concerted opposition to fight the proposed alternative paradigm and the transformation.

- **Scaling-up niches.** Niches need to be scaled up, replicated and supported at the sub-national and national levels through regulation, e.g. feed-in tariffs for renewables). In order to support the creation of new markets and new business models, regional alliances (e.g. in SIDS) for access to technologies need to be formed to scale up demand.
- **Build coalitions.** Innovators and niche actors need to come together and exchange ideas to define common ground and promote awareness and implementation of new low-carbon development models. In order to overcome opposition to the transformation, opponents' interests should be considered when developing concepts for a 'just transition'.

Acceleration phase. New solutions challenging the mainstream are incorporated into the day-to-day practices of both people and businesses. While low-carbon innovations are mutually reinforcing, opposition to the transformation may radically increase. Mitigation projects need to provide support to:

- Encourage governments to **develop legal and institutional frameworks** (legal advice, capacity- and institution-building) for the introduction and dissemination of low-carbon development business models and technologies.
- **Help to establish new actors.** In order to overcome mainstream reluctance and gain social acceptance of the transformation process, it is crucial to collaborate with civil-society actors and enable them to win over the mainstream. Communication of the transformation as changes which build on and fit day-to-day practices is essential for acceptance.
- **Assure continuous implementation** of climate actions. Low-carbon infrastructure investments provide an environment for an increasing dynamic of transformation processes and promote additional low-carbon investments. Capacity-building for producers, end-users and financial institutes need to accompany infrastructure development to enable the uptake of low-carbon development technologies and practices.

Stabilization phase. The magnitude and speed of change decreases, and the system stabilizes within a fully transformed system. The change will be transformational provided

new barriers are in place to prevent the transformed system from relapsing. In this phase, mitigation projects should support the consolidation of the transformation and:

- put in place **legislation and incentives** to sustain low-carbon innovations
- make sure that large and influential sectors of **society benefit** from the transformed development pathway and understand their benefits

3.3 AGENTS OF TRANSFORMATIONAL CHANGE: HOW TO MOBILIZE ACTORS FOR TRANSFORMATIONAL CHANGE

TC needs actors for change: innovators, disseminators, advocates and policy-makers, along with investors and consumers. Each group of actors can be mobilized through different incentives and processes. In order to foster TC, developers and managers of mitigation projects should identify relevant stakeholders, analyze their expectations and create networks around the NAMA and its intended transformation process. Groups of relevant actors can become agents of TC through certain interventions. Mitigation projects should mobilize the following relevant actors in implementing policies and actions by supporting the listed characteristics of TC:

To mobilize governments

- establish leadership and vision
- develop a long-term target
- conduct an information campaign to raise awareness of the benefits of low-carbon development
- build on existing institutional frameworks to create new institutions to promote sustainable low-carbon development
- build capacities to implement and enforce climate targets and regulation

To mobilize investors

- develop and provide risk-minimization instruments
- provide financial support for innovation
- introduce negative incentives (taxes, fines) for continuing with high-carbon development pathways
- introduce regulations for technologies

To mobilize consumers

- introduce negative incentives against the continuing of consumers' high-carbon practices
- introduce standards for carbon footprints
- introduce incentives for innovations
- introduce mandatory labelling and metering of energy use
- tax the negative effects of high-carbon patterns of consumption

